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**AN ESSAY ON THE NATURE AND
SIGNIFICANCE OF ECONOMIC SCIENCE**



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AN ESSAY ON THE NATURE & SIGNIFICANCE OF ECONOMIC SCIENCE

BY

LIONEL ROBBINS

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SECOND EDITION, REVISED AND EXTENDED

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TO MY FATHER

PREFACE TO THE SECOND EDITION

THE first edition of this essay has been out of print for some time, but apparently some demand for it continues. I have therefore taken advantage of the publisher's decision to reprint to introduce certain alterations and improvements which experience since it was first written seemed to make desirable.

In making these revisions I have not found it necessary to change substantially the main trend of the argument. Public criticism has tended to focus upon the denial in Chapter VI. of the scientific legitimacy of interpersonal comparisons of utility. I am afraid that without the least disposition to be intransigent, here or elsewhere, I am still quite unconvinced. I contended that the aggregation or comparison of the different satisfactions of different individuals involves judgments of value rather than judgments of fact, and that such judgments are beyond the scope of positive science. Nothing that has been said by any of my critics has persuaded me that this contention is false. Beyond a few supplementary remarks intended to elucidate matters further, therefore, I have left this section unaltered. I hope that my critics (some of whom seemed to assume that I was a very combative fellow indeed) will not regard this as a gesture of unfriendly defiance. I assure them I am not at all cocksure about any of my own ideas. But, in spite of the disposition of some of them to refer to this and other well-known propositions as

“Robbinsian Economics,” it is not my own, and the weight of the authorities by whom it has been propounded encourages me to believe that in this case, at least, my own lights have not led me astray.

On the other hand, many of my critics have inferred from my arguments in this connection certain precepts of practice which I should be the first to repudiate. It has been held that because I attempted clearly to delimit the spheres of Economics and other social sciences, and Economics and moral philosophy, that therefore I advocated the abstention of the economist from all interest or activity outside his own subject. It has been held—in spite of activities which I feared had become notorious—that I had urged that economists should play no part in shaping the conduct of affairs beyond giving a very prim and restrained diagnosis of the implications of all possible courses of action. My friend Mr. Lindley Fraser was even led to urge upon me in an article entitled “How do we want Economists to Behave?” more socially-minded behaviour. Where so many have misapprehended my intentions, I cannot flatter myself that I was free from obscurity. But I do plead that I did in fact state the contrary—as I thought, most emphatically. In a footnote to Section 6, Chapter V., I stated, “It is more accuracy in mode of statement, not over-austerity in speculative range, for which I am pleading”, and I went on to urge that economists have probably high differential advantages as sociologists. And in Section 4, Chapter VI., I went on to say: “All this is not to say that economists should not deliver themselves on ethical questions, any more than an argument that botany is not æsthetics is to say that botanists should not have views of their own on

the lay-out of gardens. On the contrary, it is greatly to be desired that economists should have speculated long and widely on these matters, since only in this way will they be in a position to appreciate the implications as regards *given* ends of problems which are put to them for solution." I can only add to this that I quite agree with Mr. Fraser that an economist who is only an economist and who does not happen to be a genius at his subject—and how unwise it is for any of us to assume that we are that—is a pretty poor fish. I agree, too, that by itself Economics affords no solution to any of the important problems of life. I agree that for this reason an education which consists of Economics alone is a very imperfect education. I have taught so long in institutions where this is regarded as a pedagogic axiom that any omission on my part to emphasise it further is to be attributed to the fact that I assumed that everybody would take it for granted. All that I contend is that there is much to be said for separating out the different kinds of propositions involved by the different disciplines which are germane to social action, in order that we may know at each step exactly on what grounds we are deciding. I do not believe that Mr. Fraser really disagrees with me here.

In exactly the same way I would plead that it is a complete misunderstanding of my position to contend that because I have emphasised the conventional nature of the assumptions underlying many of the so-called "measurements" of economic phenomena, I am therefore "opposed" to the carrying out of operations of this sort. It does seem to me to be a matter of great importance to recognise very clearly that in computing such aggregates as the national income or the

national capital we are making assumptions which are not reached by scientific analysis, but which are essentially conventional in character. But, as I urged in the body of the essay (pp. 57 and 62), this is not in the least to say that, provided we are fully conscious of the implications of our procedure, there is any objection to such computations. On the contrary, it is clear that not enough of this sort of thing has been done in the past, and that much is to be expected from its extension in the future. Recognition of this, however, is not incompatible with the view that it is desirable to know at each step where we are merely recording facts, and where we are evaluating these facts by arbitrary measures, and it is just because these things are so frequently confused that I still maintain that emphasis on their dissimilarity is not uncalled for.

There is, however, a part of the essay where revision has seemed to be much more incumbent. I have never been satisfied with the chapter on the nature of economic generalisations. I am not conscious of any fundamental change of opinion on these matters. But I do think that in my eagerness to bring out as vividly as possible the significance of certain recent innovations I was led in certain places to a simplification of emphasis and to a looseness in the use of logical terms, apt to be misleading outside the context of my own thought: and the fact that, while some critics have reproached me with "barren scholasticism", others have accused me of "behaviourism", has not permitted me completely to comfort myself with the belief that I elucidated satisfactorily the correct position between these extremes. Accordingly I have rewritten large parts of this chapter, and I have

also extended its scope to cover certain more complex topics, such as the meaning of the assumption of purely rational conduct, which, in the earlier version, I had omitted in order not to overload the exposition. I am afraid this makes this part of the book at once more difficult and more contentious. But although I am acutely aware of its imperfections, it satisfies my conscience more than my earlier attempt to deal with such matters only by implication. The opening section of Chapter V. has also been rewritten, and I have introduced additional paragraphs in Section 2, in which I develop a little further my reasons for believing the importance of the contrast between the qualitative laws discussed in the preceding chapter and the quantitative "laws" of statistical analysis. I have also added short sections in Chapters IV. and V. dealing with the relations between statics and dynamics and the possibility of a theory of economic development—matters upon which there seems to exist some unnecessary confusion. I hope that the changes I have made will be acceptable to my friends Professor F. A. von Hayek, Dr. P. N. Rosenstein Rodan and Dr. A. W. Stonier, whose advice and criticisms on these difficult matters have taught me much. They naturally are not responsible for any mistakes which may have crept in.

I have wondered very much what I ought to do about the various attacks on my work which have been made by Professor R. W. Souter. I have read Professor Souter's strictures with interest and respect. As I have said already, I am not convinced by anything that he says about what he calls the "positivism" of my attitude. So far as this part of his case is concerned Professor Souter must demolish, not me, but

Max Weber: and I think Max Weber still stands. But with much of what he says, particularly with regard to the desirability of transcending the rather trite generalisations of elementary statics, I am in cordial agreement. Where I part company with him is in the belief that it is possible to do this without sacrificing precision and without regarding the essential static foundations as useless. My acquaintance with the findings of modern mathematical physics and astronomy is not great, but I question whether the eminent scientists to whom he makes appeal would share his apparently very low opinion of the methods of mathematical economics, however much they felt that its results were still in a very elementary stage. In this respect I am in fairly complete agreement with what has been said already by Professor Knight.¹ I cannot help feeling, too, that, so far as this essay is concerned, one or two inadvertent acerbities of exposition have so angered Professor Souter that he has really misunderstood my position much more than would otherwise have been the case. I regret this, but it is difficult to know what to do about it. At one or two points I have tried to make things clearer. But to defend myself against all these misunderstandings would involve so great an overloading with personal apologia of what is perhaps already an unduly protracted essay that I fear I should become totally unreadable. I do not wish to appear discourteous, and I hope, if time permits me to complete various works now projected, to be able to do something to persuade Professor Souter that my claim that he has misunderstood me is not unjustified.

¹ "Economic Science in Recent Discussion", *American Economic Review*, vol. xxiv., pp. 225-238.

For the rest I have made only small changes. I have deleted certain footnotes whose topical relevance has waned, and I have endeavoured to eliminate certain manifestations of high spirits no longer in harmony with present moods. But nothing short of complete rewriting could conceal the fact that, for better or worse, the essay was written some time ago—large parts of it were conceived and drafted years before publication—and although I think it is perhaps worth reprinting, I do not think it is worth the time that that would involve. So with all the crudities and angularities that remain I commend it once more to the mercies of its readers.

LIONEL ROBBINS.

THE LONDON SCHOOL OF ECONOMICS,
May, 1935.

PREFACE TO THE FIRST EDITION

THE purpose of this essay is twofold. In the first place, it seeks to arrive at precise notions concerning the subject-matter of Economic Science and the nature of the generalisations of which Economic Science consists. Secondly it attempts to explain the limitations and the significance of these generalisations, both as a guide to the interpretation of reality and as a basis for political practice. At the present day, as a result of the theoretical developments of the last sixty years, there is no longer any ground for serious differences of opinion on these matters, once the issues are clearly stated. Yet, for lack of such statement, confusion still persists in many quarters, and false ideas are prevalent with regard to the preoccupations of the economist and the nature and the extent of his competence. As a result, the reputation of Economics suffers, and full advantage is not taken of the knowledge it confers. This essay is an attempt to remedy this deficiency—to make clear what it is that economists discuss and what may legitimately be expected as a result of their discussions. Thus on the one hand it may be regarded as a commentary on the methods and assumptions of pure theory: on the other hand, as a series of prolegomena to work in Applied Economics.

The object of the essay necessitates the taking of broad views. But my aim throughout has been to keep as close to earth as possible. I have eschewed philosophical refinements as falling outside the province in which I have any claim to professional competence; and I have based my propositions on the actual practice of the best modern works on the subject. In a study of this sort, written by an economist for fellow-economists, it seemed better to try to drive home the argument by continual reference to accepted solutions of particular problems, than to elaborate, out of the void, a theory of what Economics should become. At the same time, I have tried to be brief. My object has been to suggest a point of view rather than to treat the subject in all its details. To do this it seemed desirable to be concise even at the expense of sacrificing much material which I had originally collected. I hope, however, at a later stage to publish a work on general Economic Theory in which the principles here laid down are further illustrated and amplified.

For the views which I have advanced, I make no claim whatever to originality. I venture to hope that in one or two instances I have succeeded in giving expository force to certain principles not always clearly stated. But, in the main, my object has been to state, as simply as I could, propositions which are the common property of most modern economists. I owe much to conversations with my colleagues and pupils at the School of Economics. For the rest I have acknowledged in footnotes the debts of which I am chiefly conscious. I should like, however, once more to acknowledge my especial indebtedness to

the works of Professor Ludwig von Mises and to the *Commonsense of Political Economy* of the late Philip Wicksteed. The considerable extent to which I have cited these sources is yet a very inadequate reflection of the general assistance which I have derived from their use.

LIONEL ROBBINS.

THE LONDON SCHOOL OF ECONOMICS,
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CHAPTER I

THE SUBJECT-MATTER OF ECONOMICS

1. THE object of this Essay is to exhibit the nature and significance of Economic Science. Its first task therefore is to delimit the subject-matter of Economics—to provide a working definition of what Economics is about.

Unfortunately, this is by no means as simple as it sounds. The efforts of economists during the last hundred and fifty years have resulted in the establishment of a body of generalisations whose substantial accuracy and importance are open to question only by the ignorant or the perverse. But they have achieved no unanimity concerning the ultimate nature of the common subject-matter of these generalisations. The central chapters of the standard works on Economics retail, with only minor variations, the main principles of the science. But the chapters in which the object of the work is explained still present wide divergences. We all talk about the same things, but we have not yet agreed what it is we are talking about.¹

¹ Lest this should be thought an overstatement I subjoin below a few characteristic definitions. I have confined my choice to Anglo-Saxon literature because, as will be shown later on, a more satisfactory state of affairs is coming to prevail elsewhere. "Economics is a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of well-being" (Marshall, *Principles*, p. 1).

This is not in any way an unexpected or a disgraceful circumstance. As Mill pointed out a hundred years ago, the definition of a science has almost invariably, not preceded, but followed the creation of the science itself. "Like the wall of a city it has usually been erected, not to be a receptacle for such edifices as might afterwards spring up, but to circumscribe an aggregate already in existence."¹ Indeed, it follows from the very nature of a science that until it has reached a certain stage of development, definition of its scope is necessarily impossible. For the unity of a science only shows itself in the unity of the problems it is able to solve, and such unity is not discovered until the interconnection of its explanatory principles has been established.² Modern Economics takes its rise from various separate spheres of practical and philosophical enquiry—from investigations of the balance of trade—from discussions of the legitimacy of the taking of interest.³ It was not until quite recent times that it had become sufficiently unified for the

"Economics is the science which treats phenomena from the standpoint of price" (Davenport, *Economics of Enterprise*, p. 25). "The aim of Political Economy is the explanation of the general causes on which the material welfare of human beings depends" (Cannan, *Elementary Political Economy*, p. 1). "It is too wide a definition to speak of Economics as the science of the material side of human welfare." Economics is "the study of the general methods by which men co-operate to meet their material needs" (Beveridge, *Economics as a Liberal Education, Economica*, vol. i., p. 3). Economics, according to Professor Pigou, is the study of economic welfare, economic welfare being defined as "that part of welfare which can be brought directly or indirectly into relation with the measuring rod of money" (*Economics of Welfare*, 3rd edition, p. 1). The sequel will show how widely the implications of these definitions diverge from one another.

¹ *Unsettled Questions of Political Economy*, p. 120.

² "Nicht die 'sachlichen' Zusammenhänge der 'Dinge' sondern die gedanklichen Zusammenhänge der Probleme liegen den Arbeitsgebieten der Wissenschaften zugrunde" (Max Weber, *Die Objectivität sozialwissenschaftlicher und sozialpolitischer Erkenntnis, Gesammelte Aufsätze zur Wissenschaftslehre*, p. 166).

³ See Cannan, *Review of Economic Theory*, pp. 1-35, and Schumpeter, *Epochen der Methoden- und Dogmengeschichte*, pp. 21-38.

identity of the problems underlying these different enquiries to be detected. At an earlier stage, any attempt to discover the ultimate nature of the science was necessarily doomed to disaster. It would have been waste of time to have attempted it.

But once this stage of unification has been reached not only is it not waste of time to attempt precise delimitation; it is waste of time not to do so. Further elaboration can only take place if the objective is clearly indicated. The problems are no longer suggested by naïve reflection. They are indicated by gaps in the unity of theory, by insufficiencies in its explanatory principles. Unless one has grasped what this unity is, one is apt to go off on false scents. There can be little doubt that one of the greatest dangers which beset the modern economist is preoccupation with the irrelevant—the multiplication of activities having little or no connection with the solution of problems strictly germane to his subject.¹ There can be equally little doubt that, in those centres where questions of this sort are on the way to ultimate settlement, the solution of the central theoretical problems proceeds most rapidly. Moreover, if these solutions are to be fruitfully applied, if we are to understand correctly the bearing of Economic Science on practice, it is essential that we should know exactly the implications and limitations of the generalisations it establishes. It is therefore with an easy conscience that we may advance to what, at first sight, is the extremely academic problem of finding a formula to describe the general subject-matter of Economics.

¹ See Chapter II., Section 5, especially the footnote on p. 42, for further elaboration of this point.

2. The definition of Economics which would probably command most adherents, at any rate in Anglo-Saxon countries, is that which relates it to the study of the causes of material welfare. This element is common to the definitions of Cannan¹ and Marshall,² and even Pareto, whose approach³ in so many ways was so different from that of the two English economists, gives it the sanction of his usage. It is implied, too, in the definition of J. B. Clark.⁴

And, at first sight, it must be admitted, it certainly does appear as if we have here a definition which for practical purposes describes the object of our interest. In ordinary speech there is unquestionably a sense in which the word "economic" is used as equivalent to "material". One has only to reflect upon its signification to the layman in such phrases as "Economic History",⁵ or "a conflict between economic and political advantage", to realise the extreme plausibility of this interpretation. No doubt there are some matters falling outside this definition which seem to fall within the scope of Economics, but at first sight these may very well seem to be of the order of marginal cases inevitable with every definition.

But the final test of the validity of any such definition is not its apparent harmony with certain usages of everyday speech, but its capacity to describe exactly the ultimate subject-matter of the main

¹ *Wealth*, 1st edition, p. 17.

² *Principles*, 8th edition, p. 1.

³ *Cours d'Economie Politique*, p. 6.

⁴ *Essentials of Economic Theory*, p. 5. See also *Philosophy of Wealth*, ch. i. In this chapter the difficulties discussed below are explicitly recognised, but, surprisingly enough, instead of this leading to a rejection of the definition, it leads only to a somewhat surprising attempt to change the significance of the word "material".

⁵ But see Chapter II. below for an examination of the validity of this interpretation.

generalisations of the science.¹ And when we submit the definition in question to this test, it is seen to possess deficiencies which, so far from being marginal and subsidiary, amount to nothing less than a complete failure to exhibit either the scope or the significance of the most central generalisations of all.

Let us take any one of the main divisions of theoretical Economics and examine to what extent it is covered by the definition we are examining. We should all agree, for instance, that a theory of wages was an integral part of any system of economic analysis. Can we be content with the assumption that the phenomena with which such a theory has to deal are adequately described as pertaining to the more material side of human welfare?

Wages, in the strict sense of the term, are sums earned by the performance of work at stipulated rates under the supervision of an employer. In the looser sense in which the term is often used in general economic analysis, it stands for labour incomes other than profits. Now it is perfectly true that some wages are the price of work which may be described as conducive to material welfare—the wages of a sewage collector, for instance. But it is equally true that some

¹ In this connection it is perhaps worth while clearing up a confusion which not infrequently occurs in discussions of terminology. It is often urged that scientific definitions of words used both in ordinary language and in scientific analysis should not depart from the usages of everyday speech. No doubt this is a counsel of perfection, but in principle the main contention may be accepted. Great confusion is certainly created when a word which is used in one sense in business practice is used in another sense in the analysis of such practice. One has only to think of the difficulties which have been created by such departures in regard to the meaning of the term capital. But it is one thing to follow everyday usage when appropriating a term. It is another thing to contend that everyday speech is the final court of appeal when defining a science. For in this case the significant implication of the word is the subject-matter of the generalisations of the science. And it is only by reference to these that the definition can finally be established. Any other procedure would be intolerable.

wages, the wages of the members of an orchestra, for instance, are paid for work which has not the remotest bearing on material welfare. Yet the one set of services, equally with the other, commands a price and enters into the circle of exchange. The theory of wages is as applicable to the explanation of the latter as it is to the explanation of the former. Its elucidations are not limited to wages which are paid for work ministering to the "more material" side of human well-being—whatever that may be.

Nor is the situation saved if we turn from the work for which wages are paid to the things on which wages are spent. It might be urged that it is not because what the wage-earner produces is conducive to other people's material welfare that the theory of wages may be subsumed under the description, but because what he gets is conducive to his own. But this does not bear examination for an instant. The wage-earner may buy bread with his earnings. But he may buy a seat at the theatre. A theory of wages which ignored all those sums which were paid for "immaterial" services or spent on "immaterial" ends would be intolerable. The circle of exchange would be hopelessly ruptured. The whole process of general analysis could never be employed. It is impossible to conceive significant generalisations about a field thus arbitrarily delimited.

It is improbable that any serious economist has attempted to delimit the theory of wages in this manner, however much he may have attempted thus to delimit the whole body of generalisations of which the theory of wages is a part. But attempts have certainly been made to deny the applicability of economic analysis to the examination of the achievement of

ends other than material welfare. No less an economist than Professor Cannan has urged that the political economy of war is "a contradiction in terms",¹ apparently on the ground that, since Economics is concerned with the causes of material welfare, and since war is not a cause of material welfare, war cannot be part of the subject-matter of Economics. As a moral judgment on the uses to which abstract knowledge should be put, Professor Cannan's strictures may be accepted. But it is abundantly clear, as Professor Cannan's own practice has shown, that, so far from Economics having no light to throw on the successful prosecution of modern warfare, it is highly doubtful whether the organisers of war can possibly do without it. It is a curious paradox that Professor Cannan's pronouncement on this matter should occur in a work which, more than any other published in our language, uses the apparatus of economic analysis to illuminate many of the most urgent and the most intricate problems of a community organised for war.

This habit on the part of modern English economists of describing Economics as concerned with the causes of material welfare, is all the more curious when we reflect upon the unanimity with which they have adopted a non-material definition of "productivity". Adam Smith, it will be remembered, distinguished between productive and unproductive labour, according as the efforts in question did or did not result in the production of a tangible material object. "The labour of some of the most respectable orders in the society is, like that of menial servants, unproductive of any value and does not fix or realise itself in any permanent subject or vendible commodity

¹ Cannan, *An Economist's Protest*, p. 49.

which endures after that labour is past. . . . The sovereign, for example, with all the officers both of justice and war who serve under him are unproductive labourers. . . . In the same class must be ranked some both of the gravest and most important, and some of the most frivolous professions: churchmen, lawyers, physicians, men of letters of all kinds; players, buffoons, musicians, opera singers, opera dancers, etc. . . ."¹ Modern economists, Professor Cannan foremost among them,² have rejected this conception of productivity as inadequate.³ So long as it is the object of demand, whether privately or collectively formulated, the labour of the opera singers and dancers must be regarded as "productive". But productive of what? Of material welfare because it cheers the business man and releases new stores of energy to organise the production of material? That way lies dilettantism and *Wortspielerei*. It is productive because it is valued, because it has specific importance for various "economic subjects". So far is modern theory from the point of view of Adam Smith and the Physiocrats that the epithet of productive labour is denied even to the production of material objects, if the material objects are not valuable. Indeed, it has gone further than this. Professor Fisher, among others, has demonstrated conclusively⁴ that the income from a material object must in the last resort be conceived as an "immaterial"

¹ *Wealth of Nations* (Cannan's ed.), p. 315.

² *Theories of Production and Distribution*, pp. 18-31; *Review of Economic Theory*, pp. 49-51.

³ It is even arguable that the reaction has gone too far. Whatever its demerits, the Smithian classification had a significance for capital theory which in recent times has not always been clearly recognised. See Taussig, *Wages and Capital*, pp. 132-151.

⁴ *The Nature of Capital and Income*, ch. vii.

use. From my house equally as from my valet or the services of the opera singer, I derive an income which "perishes in the moment of its production".

But, if this is so, is it not misleading to go on describing Economics as the study of the causes of material welfare? The services of the opera dancer are wealth. Economics deals with the pricing of these services, equally with the pricing of the services of a cook. Whatever Economics is concerned with, it is *not* concerned with the causes of material welfare as such.

The causes which have led to the persistence of this definition are mainly historical in character. It is the last vestige of Physiocratic influence. English economists are not usually interested in questions of scope and method. In nine cases out of ten where this definition occurs, it has probably been taken over quite uncritically from some earlier work. But, in the case of Professor Cannan, its retention is due to more positive causes; and it is instructive to attempt to trace the processes of reasoning which seem to have rendered it plausible to so penetrating and so acute an intellect.

The rationale of any definition is usually to be found in the use which is actually made of it. Professor Cannan develops his definition in close juxtaposition to a discussion of "the Fundamental Conditions of Wealth for Isolated Man and for Society",¹ and it is in connection with this discussion that he actually uses his conception of what is economic and what is not. It is no accident, it may be suggested, that if the approach to economic analysis is made from this point of view, the "materialist" definition, as we may

¹ This is the title of ch.ii. of *Wealth* (1st edition).

call it, has the maximum plausibility. This deserves vindication in some detail.

Professor Cannan commences by contemplating the activities of a man isolated completely from society and enquiring what conditions will determine his wealth—that is to say, his material welfare. In such conditions, a division of activities into “economic” and “non-economic”—activities directed to the increase of material welfare and activities directed to the increase of non-material welfare—has a certain plausibility. If Robinson Crusoe digs potatoes, he is pursuing material or “economic” welfare. If he talks to the parrot, his activities are “non-economic” in character. There is a difficulty here to which we must return later, but it is clear *prima facie* that, in this context, the distinction is not ridiculous.

But let us suppose Crusoe is rescued and, coming home, goes on the stage and talks to the parrot for a living. Surely in such conditions these conversations have an economic aspect. Whether he spends his earnings on potatoes or philosophy, Crusoe’s getting and spending are capable of being exhibited in terms of the fundamental economic categories.

Professor Cannan does not pause to ask whether his distinction is very helpful in the analysis of an exchange economy—though, after all, it is here that economic generalisations have the greatest practical utility. Instead, he proceeds forthwith to consider the “fundamental conditions of wealth” for society considered as a whole irrespective of whether it is organised on the basis of private property and free exchanges or not. And here again his definition becomes plausible: once more the aggregate of social activities can be sorted out into the twofold classi-

fication it implies. Some activities are devoted to the pursuit of material welfare: some are not. We think, for instance, of the executive of a communist society, deciding to spend so much labour-time on the provision of bread, so much on the provision of circuses.

But even here and in the earlier case of the Crusoe Economy, the procedure is open to what is surely a crushing objection. Let us accept Professor Cannan's use of the terms "economic" and "non-economic" as being equivalent to conducive to material and non-material welfare respectively. Then we may say with him that the wealth of society will be greater the greater proportion of time which is devoted to material ends, the less the proportion which is devoted to immaterial ends. We may say this. But we must also admit that, using the word "economic" in a perfectly normal sense, there still remains an economic problem, both for society and for the individual, of choosing between these two kinds of activity—a problem of how, given the relative valuations of product and leisure and the opportunities of production, the fixed supply of twenty-four hours in the day is to be divided between them. *There is still an economic problem of deciding between the "economic" and the "non-economic"*. One of the main problems of the Theory of Production lies half outside Professor Cannan's definition.

Is not this in itself a sufficient argument for its abandonment?¹

¹ There are other quarrels which we might pick with this particular definition. From the philosophical point of view, the term "material welfare" is a very odd construction. "The material causes of welfare" might be admitted. But "material welfare" seems to involve a division of states of mind which are essentially unitary. For the purposes of this chapter, however, it has seemed better to ignore these deficiencies and to concentrate on the main question, namely, whether the definition can in any way describe the contents of which it is intended to serve as a label.

3. But where, then, are we to turn? The position is by no means hopeless. Our critical examination of the "materialist" definition has brought us to a point from which it is possible to proceed forthwith to formulate a definition which shall be immune from all these strictures.

Let us turn back to the simplest case in which we found this definition inappropriate—the case of isolated man dividing his time between the production of real income and the enjoyment of leisure. We have just seen that such a division may legitimately be said to have an economic aspect. Wherein does this aspect consist?

The answer is to be found in the formulation of the exact conditions which make such division necessary. They are four. In the first place, isolated man wants both real income and leisure. Secondly, he has not enough of either fully to satisfy his want of each. Thirdly, he can spend his time in augmenting his real income or he can spend it in taking more leisure. Fourthly, it may be presumed that, save in most exceptional cases, his want for the different constituents of real income and leisure will be different. Therefore he has to choose. He has to economise. The disposition of his time and his resources has a relationship to his system of wants. It has an economic aspect.

This example is typical of the whole field of economic studies. From the point of view of the economist, the conditions of human existence exhibit four fundamental characteristics. The ends are various. The time and the means for achieving these ends are limited and capable of alternative application. At the same time the ends have different importance. Here

we are, sentient creatures with bundles of desires and aspirations, with masses of instinctive tendencies all urging us in different ways to action. But the time in which these tendencies can be expressed is limited. The external world does not offer full opportunities for their complete achievement. Life is short. Nature is niggardly. Our fellows have other objectives. Yet we can use our lives for doing different things, our materials and the services of others for achieving different objectives.

Now *by itself* the multiplicity of ends has no necessary interest for the economist. If I want to do two things, and I have ample time and ample means with which to do them, and I do not want the time or the means for anything else, then my conduct assumes none of those forms which are the subject of economic science. Nirvana is not necessarily single bliss. It is merely the complete satisfaction of *all* requirements.

Nor is the mere limitation of means *by itself* sufficient to give rise to economic phenomena. If means of satisfaction have no alternative use, then they may be scarce, but they cannot be economised. The Manna which fell from heaven may have been scarce, but, if it was impossible to exchange it for something else or to postpone its use,¹ it was not the object of any activity with an economic aspect.

Nor again is the alternative applicability of scarce means a complete condition of the existence of the kind of phenomena we are analysing. If the economic

¹ It is perhaps worth emphasising the significance of this qualification. The application of technically similar means to the achievement of qualitatively similar ends *at different times* constitute alternative uses of these means. Unless this is clearly realised, one of the most important types of economic action is overlooked.

subject has two ends and one means of satisfying them, and the two ends are of equal importance, his position will be like the position of the ass in the fable, paralysed halfway between the two equally attractive bundles of hay.¹

But when time and the means for achieving ends are limited *and* capable of alternative application, *and* the ends are capable of being distinguished in order of importance, then behaviour necessarily assumes the form of choice. Every act which involves time and scarce means for the achievement of one end involves the relinquishment of their use for the achievement of another. It has an economic aspect.² If I want bread and sleep, and in the time at my disposal I cannot have all I want of both, then some part of my wants of bread and sleep must go unsatisfied. If, in a limited lifetime, I would wish to be both a philosopher and a mathematician, but my rate of acquisition of knowledge is such that I cannot do both completely, then some part of my wish for philosophical or mathematical competence or both must be relinquished.

Now not all the means for achieving human ends are limited. There are things in the external world which are present in such comparative abundance that the use of particular units for one thing does not

¹ This may seem an unnecessary refinement, and in the first edition of this essay I left it out for that reason. But the condition that there exists a hierarchy of ends is so important in the theory of value that it seems better to state it explicitly even at this stage. See Chapter IV., Section 2.

² Cp. Schönfeld, *Grenznutzen und Wirtschaftsrechnung*, p. 1; Hans Mayer, *Untersuchungen zu dem Grundgesetze der wirtschaftlichen Wertrechnung (Zeitschrift für Volkswirtschaft und Sozialpolitik, Bd. 2, p. 123)*.

It should be sufficiently clear that it is not "time" as such which is scarce, but rather the potentialities of ourselves viewed as instruments. To speak of scarcity of time is simply a metaphorical way of invoking this rather abstract concept.

involve going without other units for others. The air which we breathe, for instance, is such a "free" commodity. Save in very special circumstances, the fact that we need air imposes no sacrifice of time or resources. The loss of one cubic foot of air implies no sacrifice of alternatives. Units of air have no specific significance for conduct. And it is conceivable that living creatures might exist whose "ends" were so limited that all goods for them were "free" goods, that no goods had specific significance.

But, in general, human activity with its multiplicity of objectives has not this independence of time or specific resources. The time at our disposal is limited. There are only twenty-four hours in the day. We have to choose between the different uses to which they may be put. The services which others put at our disposal are limited. The material means of achieving ends are limited. We have been turned out of Paradise. We have neither eternal life nor unlimited means of gratification. Everywhere we turn, if we choose one thing we must relinquish others which, in different circumstances, we would wish not to have relinquished. Scarcity of means to satisfy ends of varying importance is an almost ubiquitous condition of human behaviour.¹

Here, then, is the unity of subject of Economic Science, the forms assumed by human behaviour in disposing of scarce means. The examples we have

¹ It should be clear that there is no disharmony between the conception of end here employed, the terminus of particular lines of conduct in acts of final consumption, and the conception involved when it is said that there is but one end of activity—the maximising of satisfaction, "utility", or what not. Our "ends" are to be regarded as proximate to the achievement of this ultimate end. If the means are scarce they cannot all be achieved, and according to the scarcity of means and their relative importance the achievement of some ends has to be relinquished.

discussed already harmonise perfectly with this conception. Both the services of cooks and the services of opera dancers are limited in relation to demand and can be put to alternative uses. The theory of wages in its entirety is covered by our present definition. So, too, is the political economy of war. The waging of war necessarily involves the withdrawal of scarce goods and services from other uses, if it is to be satisfactorily achieved. It has therefore an economic aspect. The economist studies the disposal of scarce means. He is interested in the way different degrees of scarcity of different goods give rise to different ratios of valuation between them, and he is interested in the way in which changes in conditions of scarcity, whether coming from changes in ends or changes in means—from the demand side or the supply side—affect these ratios. Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses.¹

4. It is important at once to notice certain implications of this conception. The conception we have rejected, the conception of Economics as the study of the causes of material welfare, was what may be called a *classificatory* conception. It marks off certain kinds of human behaviour, behaviour directed to the procuring of material welfare, and designates these as the subject-matter of Economics. Other kinds of conduct lie outside the scope of its investigations. The conception we have adopted may be described as *analytical*. It does not attempt to pick out certain

¹ Cp. Menger, *Grundsätze der Volkswirtschaftslehre*, 1te Aufl., pp. 51-70; Mises, *Die Gemeinwirtschaft*, pp. 98 seq.; Fetter, *Economic Principles*, ch. i.; Strigl, *Die ökonomischen Kategorien und die Organisation der Wirtschaft*, *passim*; Mayer, *op. cit.*

kinds of behaviour, but focuses attention on a particular *aspect* of behaviour, the form imposed by the influence of scarcity.¹ It follows from this, therefore, that in so far as it presents this aspect, any kind of human behaviour falls within the scope of economic generalisations. We do not say that the production of potatoes is economic activity and the production of philosophy is not. We say rather that, in so far as either kind of activity involves the relinquishment of other desired alternatives, it has its economic aspect. There are no limitations on the subject-matter of Economic Science save this.

Certain writers, however, while rejecting the conception of Economics as concerned with material welfare, have sought to impose on its scope a restriction of another nature: They have urged that the behaviour with which Economics is concerned is essentially a certain type of social behaviour, the behaviour implied by the institutions of the Individualist Exchange Economy. On this view, that kind of behaviour which is not specifically social in this definite sense is not the subject-matter of Economics, Professor Amonn in particular has devoted almost infinite pains to elaborating this conception.²

Now it may be freely admitted that, within the

¹ On the distinction between analytical and classificatory definitions, see Irving Fisher, *Senses of Capital* (*Economic Journal*, vol. vii., p. 213). It is interesting to observe that the change in the conception of Economics implied by our definition is similar to the change in the conception of capital implied in Professor Fisher's definition. Adam Smith defined capital as a kind of wealth. Professor Fisher would have us regard it as an aspect of wealth.

² See his *Objekt und Grundbegriffe der theoretischen Nationalökonomie*, 2 Aufl. The criticisms of Schumpeter and Strigl on pp. 110-125 and pp. 155-156 are particularly important from this point of view. With the very greatest respect for Professor Amonn's exhaustive analysis, I cannot resist the impression that he is inclined rather to magnify the degree of his divergence from the attitude of these two authors.

wide field of our definition, the attention of economists is focused chiefly on the complications of the Exchange Economy. The reason for this is one of interest. The activities of isolated man, equally with the activities of the exchange economy, are subject to the limitations we are contemplating. But, from the point of view of isolated man, economic analysis is unnecessary. The elements of the problem are given to unaided reflection. Examination of the behaviour of a Crusoe may be immensely illuminating as an aid to more advanced studies. But, from the point of view of Crusoe, it is obviously *extra-marginal*. So too in the case of a "closed" communistic society. Again, from the point of view of the economist, the comparison of the phenomena of such a society with those of the exchange economy may be very illuminating. But from the point of view of the members of the executive, the generalisations of Economics would be uninteresting. Their position would be analogous to Crusoe's. For them the economic problem would be merely whether to apply productive power to this or to that. Now, as Professor Mises has emphasised, given central ownership and control of the means of production, the registering of individual pulls and resistances by a mechanism of prices and costs is excluded by definition. It follows therefore that the decisions of the executive must necessarily be "arbitrary".¹ That is to say, they must be based on *its* valuations—not on the valuations of consumers and producers. This at once simplifies the form of choice. Without the guidance of a price system, the

¹ See Mises, *Die Gemeinwirtschaft*, pp. 94-138. In his *Economic Planning in Soviet Russia*, Professor Boris Brutzkus has well shown the way in which this difficulty has been exemplified in the various phases of the Russian experiment.

organisation of production must depend on the valuations of the final organiser, just as the organisation of a patriarchal estate unconnected with a money economy must depend on the valuations of the patriarch.

But in the exchange economy the position is much more complicated. The implications of individual decisions reach beyond the repercussions on the individual. One may realise completely the implications for oneself of a decision to spend money in this way rather than in that way. But it is not so easy to trace the effects of this decision on the whole complex of "scarcity relationships"—on wages, on profits, on prices, on rates of capitalisation, and the organisation of production. On the contrary, the utmost effort of abstract thought is required to devise generalisations which enable us to grasp them. For this reason economic analysis has most utility in the exchange economy. It is unnecessary in the isolated economy. It is debarred from any but the simplest generalisations by the very *raison d'être* of a strictly communist society. But where independent initiative in social relationships is permitted to the individual, there economic analysis comes into its own.

But it is one thing to contend that economic analysis has *most interest and utility* in an exchange economy. It is another to contend that its subject-matter is *limited* to such phenomena. The unjustifiability of this latter contention may be shown conclusively by two considerations. In the first place, it is clear that behaviour outside the exchange economy is conditioned by the same limitation of means in relation to ends as behaviour within the economy, and is capable of being subsumed under the same funda-

mental categories.¹ The generalisations of the theory of value are as applicable to the behaviour of isolated man or the executive authority of a communist society, as to the behaviour of man in an exchange economy—even if they are not so illuminating in such contexts. The exchange relationship is a *technical* incident, a technical incident indeed which gives rise to nearly all the interesting complications, but still, for all that, subsidiary to the main fact of scarcity.

In the second place, it is clear that the phenomena of the exchange economy itself can only be explained by *going behind* such relationships and invoking the operation of those laws of choice which are best seen when contemplating the behaviour of the isolated individual.² Professor Amonn seems willing to admit that such a system of pure Economics may be useful as an auxiliary to Economic Science, but he precludes himself from making it the basis of the main system by postulating that the subject-matter of Economics must be defined in terms of the problems discussed by Ricardo. The view that a definition must describe an existing body of knowledge and not lay down arbitrary limits is admirable. But, it may legitimately be asked, why stop at Ricardo? Is it not clear that the imperfections of the Ricardian system were due to just this circumstance that it stopped at the valuations of the market and did not press through to the valuations of the individual? Surely it is the great achievement of

¹ See Strigl, *op. cit.*, pp. 23-28.

² Professor Cassel's dismissal of Crusoe Economics (*Fundamental Thoughts*, p. 27) seems unfortunate since it is only when contemplating the conditions of isolated man that the importance of the condition that the scarce means must have alternative uses if there is to be economic activity, which was emphasised above, leaps clearly to the eye. In a social economy of any kind, the mere multiplicity of economic subjects leads one to overlook the possibility of the existence of scarce goods with no alternative uses.

the more recent theories of value to have surmounted just this barrier?¹

5. Finally, we may return to the definition we rejected and examine how it compares with the definition we have now chosen.

At first sight, it is possible to underestimate the divergence between the two definitions. The one regards the subject-matter of economics as human behaviour conceived as a relationship between ends and means, the other as the causes of material welfare. Scarcity of means and the causes of material welfare—are these not more or less the same thing?

Such a contention, however, would rest upon a misconception. It is true that the scarcity of materials is one of the limitations of conduct. But the scarcity of our own time and the services of others is just as important. The scarcity of the services of the school-master and the sewage man have each their economic aspect. Only by saying that services are material vibrations or the like can one stretch the definition to cover the whole field. But this is not only perverse, it is also misleading. In this form the definition may *cover* the field, but it does not describe it. For it is not the *materiality* of even material means of gratification

¹ The objections outlined above to the definition suggested by Professor Amonn should be sufficient to indicate the nature of the objections to those definitions which run in terms of phenomena from the standpoint of price (Davenport), susceptibility to the "measuring rod of money" (Pigou), or the "science of exchange" (Landry, etc.). Professor Schumpeter, in his *Wesen und Hauptinhalt der theoretischen Nationalökonomie*, has attempted with never to be forgotten subtlety to vindicate the latter definition by demonstrating that it is possible to *conceive* all the fundamental aspects of behaviour germane to Economic Science as having the form of exchange. That this is correct and that it embodies a truth fundamental to the proper understanding of equilibrium theory may be readily admitted. But it is one thing to generalise the notion of exchange as a *construction*. It is another to use it in this sense as a *criterion*. That it *can* function in this way is not disputed. But that it throws the maximum light on the ultimate nature of our subject-matter is surely open to question.

which gives them their status as economic goods; it is their relation to valuations. It is their relationship to given wants rather than their technical substance which is significant. The "materialist" definition of Economics therefore misrepresents the science as we know it. Even if it does not definitely mislead as to its scope, it necessarily fails to convey an adequate concept of its nature. There seems no valid argument against its rejection.

At the same time, it is important to realise that what is rejected is but a definition. We do not reject the body of knowledge which it was intended to describe. The practice of those who have adopted it fits in perfectly with the alternative definition which has been suggested. There is no important generalisation in the whole range of Professor Cannan's system, for instance, which is incompatible with the definition of the subject-matter of Economics in terms of the disposal of scarce means.

Moreover, the very example which Professor Cannan selects to illustrate his definition fits much better into our framework than it does into his. "Economists", he says, "would agree that 'Did Bacon write Shakespeare?' was not an economic question, and that the satisfaction which believers in the cryptogram would feel if it were universally accepted would not be an economic satisfaction. . . . On the other hand, they would agree that the controversy would have an economic side if copyright were perpetual and the descendants of Bacon and Shakespeare were disputing the ownership of the plays."¹ Exactly. But why? Because the ownership of the copyright involves material welfare? But the

¹ *Wealth* (1st edition), ch. i.

proceeds may all go to missionary societies. Surely the question has an economic aspect simply and solely because the copyright laws supposed would make the use of the plays scarce in relation to the demand for their use, and would in turn provide their owners with command over scarce means of gratification which otherwise would be differently distributed.

CHAPTER II

ENDS AND MEANS

1. WE have now established a working definition of the subject-matter of Economics. The next step is to examine its implications. In this chapter we shall be concerned with the status of ends and means as they figure in Economic Theory and Economic History. In the next we shall be concerned with the interpretation of various economic "quantities".

2. Let us turn first to the status of ends.¹

Economics, we have seen, is concerned with that aspect of behaviour which arises from the scarcity of means to achieve given ends. It follows that Economics is entirely neutral between ends; that, in so far as the achievement of *any* end is dependent on scarce means, it is germane to the preoccupations of the economist. Economics is not concerned with ends as such. It assumes that human beings have ends in the sense that they have tendencies to conduct which can be defined and understood, and it asks how their progress towards their objectives is conditioned by the scarcity of means—how the disposal of the scarce means is contingent on these ultimate valuations.

It should be clear, therefore, that to speak of any end as being itself "economic" is entirely misleading.

¹ The following sections are devoted to the elucidation of the implications of Economics as a positive science. On the question whether Economics should aspire to a normative status, see Chapter VI., Section 4, below.

The habit, prevalent among certain groups of economists, of discussing "economic satisfactions" is alien to the central intention of economic analysis. A satisfaction is to be conceived as an end-product of activity. It is not itself part of that activity which we study. It would be going too far to urge that it is impossible to conceive of "economic satisfactions". For, presumably, we *can* so describe a satisfaction which is contingent on the availability of scarce means as distinct from a satisfaction which depends entirely on subjective factors—*e.g.*, the satisfaction of having a summer holiday, as compared with the satisfaction of remembering it. But since, as we have seen, the scarcity of means is so wide as to influence in some degree almost all kinds of conduct, this does not seem a useful conception. And since it is manifestly out of harmony with the main implications of our definition, it is probably best avoided altogether.

It follows, further, that the belief, prevalent among certain critics of Economic Science, that the preoccupation of the economist is with a peculiarly low type of conduct, depends upon misapprehension. The economist is not concerned with ends as such. He is concerned with the way in which the attainment of ends is limited. The ends may be noble or they may be base. They may be "material" or "immaterial"—if ends can be so described. But if the attainment of one set of ends involves the sacrifice of others, then it has an economic aspect.

All this is quite obvious if only we consider the actual sphere of application of economic analysis, instead of resting content with the assertions of those who do not know what economic analysis is. Suppose, for instance, a community of sybarites, their pleasures

gross and sensual, their intellectual activities preoccupied with the "purely material". It is clear enough that economic analysis can provide categories for describing the relationships between these ends and the means which are available for achieving them. But it is not true, as Ruskin and Carlyle and suchlike critics have asserted, that it is *limited* to this sort of thing. Let us suppose this reprehensible community to be visited by a Savonarola. Their former ends become revolting to them. The pleasures of the senses are banished. The sybarites become ascetics. Surely economic analysis is still applicable. There is no need to change the categories of explanation. All that has happened is that the demand schedules have changed. Some things have become relatively less scarce, others more so. The rent of vineyards falls. The rent of quarries for ecclesiastical masonry rises. That is all. The distribution of time between prayer and good works has its economic aspect equally with the distribution of time between orgies and slumber. The "pig-philosophy"—to use Carlyle's contemptuous epithet—turns out to be all-embracing.

To be perfectly fair, it must be admitted that this is a case in which economists are to some extent to blame for their own misfortunes. As we have seen already, their practice has been more or less unexceptionable. But their definitions have been misleading, and their attitude in the face of criticism has been unnecessarily apologetic. It is even said that quite modern economists who have been convinced both of the importance of Economics *and* of its preoccupation with the "more material side of human welfare" have been reduced to prefacing their lectures on general Economic Theory with the rather sheepish apology that, after

all, bread and butter are necessary, even to the lives of artists and saints. This seems to be unnecessary in itself, and at the same time liable to give rise to misconception in the minds of those who are apt to find the merely material rather small beer. Nevertheless, if Carlyle and Ruskin had been willing to make the intellectual effort necessary to assimilate the body of analysis bequeathed by the great men whom they criticised so unjustly, they would have realised its profound significance in regard to the interpretation of conduct in general, even if they had been unable to provide any better description than its authors. But, as is abundantly clear from their criticisms, they never made this effort. They did not want to make the effort. It was so much easier, so much more congenial, misrepresenting those who did. And the opportunities for misrepresenting a science that had hardly begun to become conscious of its ultimate implications were not far to seek.

But, if there is no longer any excuse for the detractors of Economics to accuse it of preoccupation with particularly low ends of conduct, there is equally no excuse for economists to adopt an attitude of superiority as regards the subjects that they are capable of handling. We have already noticed Professor Cannan's rather paradoxical attitude to a political economy of war. And, speaking generally, are we not entitled to urge that in this respect Professor Cannan is a little apt to follow St. Peter and cry, "Not so, Lord: for nothing common or unclean hath at any time entered into my mouth"? In the opening chapter of *Wealth*,¹ he goes out of his way to say that "the criterion of buying and selling brings

¹ First edition, p. 15.

many things into economics which are not commonly treated there and which it does not seem convenient to treat there. A large trade has existed since history began in supplying certain satisfactions of a sensual character which are never regarded as economic goods. Indulgences to commit what would otherwise be regarded as offences against religion or morality have been sold sometimes openly and at all times under some thin disguise: nobody has regarded these as economic goods". This is surely very questionable. Economists, equally with other human beings, may regard the services of prostitutes as conducive to no "good" in the ultimate ethical sense. But to deny that such services are scarce in the sense in which we use the term, and that there is therefore an economic aspect of hired love, susceptible to treatment in the same categories of general analysis as enable us to explain fluctuations in the price of hired rhetoric, does not seem to be in accordance with the facts. As for the sale of indulgences, surely the status in Economic History of these agreeable transactions is not seriously open to question. Did the sale of indulgences affect the distribution of income, the magnitude of expenditure on other commodities, the direction of production, or did it not? We must not evade the consequences of the conclusion that all conduct coming under the influence of scarcity has its economic aspect.

3. A very interesting example of the difficulties which may arise if the implications which we have been trying to drag into the light are neglected, is afforded in a paper by Sir Josiah Stamp on *Æsthetics as an Economic Factor*.¹ Sir Josiah, in common with

¹ *Some Economic Factors in Modern Life*, pp. 1-25.

most men of vision and imagination, is anxious to preserve the countryside and to safeguard ancient monuments. (The occasion of the paper was a decision on the part of his railway company not to destroy Stratford House, a sixteenth-century half-timbered building in Birmingham, to make room for railway sidings.) At the same time, he believes that Economics is concerned with material welfare.¹ He is, therefore, driven to argue that "indifference to the æsthetic will in the long run lessen the economic product; that attention to the æsthetic will increase economic welfare".² That is to say, that if we seek first the Kingdom of the Beautiful, all material welfare will be added unto us. And he brings all the solid weight of his authority to the task of stampeding the business world into believing that this is true.

It is easy to sympathise with the intention of the argument. But it is difficult to believe that its logic is very convincing. It may be perfectly true, as Sir Josiah contends, that the wide interests fostered by the study of ancient monuments and the contemplation of beautiful objects are both stimulating to the intelligence and restful to the nervous system, and that, to that extent, a community which offers opportunities for such interests may gain in other, "more material", ways. But it is surely an optimism, unjustified either by experience or by *a priori* probability, to assume that this *necessarily* follows. It is surely a fact which we must all recognise that rejection of material comfort in favour of æsthetic or ethical values does not necessarily bring material compensa-

¹ " . . . I use . . . economics as a term to cover the getting of material welfare" (*op. cit.*, p. 3).

² *Ibid.*, p. 4.

tion. There are cases when it is *either* bread *or* a lily. Choice of the one involves sacrifice of the other, and, although we may be satisfied with our choice, we cannot delude ourselves that it was not really a choice at all, that more bread will follow. It is not true that all things work together for *material* good to them that love God. So far from postulating a harmony of ends in this sense, Economics brings into full view that conflict of choice which is one of the permanent characteristics of human existence. Your economist is a true tragedian.

What has happened, of course, is that adherence to the "materialist" definition has prevented Sir Josiah from recognising clearly that Economics and *Æsthetics* are not *in pari materia*.¹ *Æsthetics* is concerned with certain kinds of ends. The beautiful is an end which offers itself for choice in competition, so to speak, with others. Economics is not concerned at all with any ends *as such*. It is concerned with ends in so far as they affect the disposition of means. It takes the ends as given in scales of relative valuation, and enquires what consequences follow in regard to certain aspects of behaviour.

But, it may be argued, is it not possible to regard the procuring of money as something which competes with other ends, and, if this is so, may we not legitimately speak of an "economic" end of conduct? This raises questions of very great import. Full discussion of the part played in economic analysis of the assumption that money-making is the sole motive of conduct must be deferred until a later chapter, where it will be investigated fully. But, for the

¹ It is only fair to state that there are passages in the same essay which seem to be dictated by this sort of consideration, especially the remarks on pp. 14-16 on balance in consumption.

moment, it may be replied that the objection rests upon a misconception of the significance of money. Money-making in the normal sense of the term is merely the intermediate stage between a sale and a purchase. The procuring of a flow of money from the sale of one's services or the hiring out of one's property is not an end *per se*. The money is clearly a means to ultimate purchase. It is sought, not for itself, but for the things on which it may be spent—whether these be the constituents of real income now or of real income in the future. Money-making in this sense means securing the means for the achievement of *all* those ends which are capable of achievement by the aid of purchasable commodities. Money *as such* is obviously merely a means—a medium of exchange, an instrument of calculation. For society, from the static point of view, the presence of more or less money is irrelevant. For the individual it is relevant only in so far as it serves his ultimate objectives. Only the miser, the psychological monstrosity, desires an infinite accumulation of money. Indeed, so little do we regard this as typical that, far from regarding the demand for money to hold as being indefinitely great, we are in the habit of assuming that money is desired only to be passed on. Instead of assuming the demand curve for money to hold to be a straight line parallel with the *y* axis, economists have been in the habit of assuming, as a first approximation, that it is of the nature of a rectangular hyperbola.¹

¹ On all this, see Wicksteed, *The Commonsense of Political Economy*, pp. 155-157. It is not denied that the acquisition of the power to procure real income may itself become an objective, or that, if it does, the economic system will not be affected in various ways. All that is contended is that to label any of these ends "economic" implies a false view of what is necessarily embraced by economic analysis. Economics takes all ends for granted. They "show" themselves in the scales of relative valuation which are assumed by the propositions of modern economic analysis.

4. Economics, then, is in no way to be conceived, as we may conceive Ethics or Æsthetics, as being concerned with ends as such. It is equally important that its preoccupations should be sharply distinguished from those of the technical arts of production—with ways of using given means. This raises certain issues of considerable complexity which it is desirable to examine at some length.

The relation between Economics and the technical arts of production is one which has always presented great difficulties to those economists who have thought that they were concerned with the causes of material welfare. It is clear that the technical arts of production are concerned with material welfare. Yet the distinction between art and science does not seem to exhaust the difference. So much scientific knowledge is germane to the technical arts of production that is foreign to Economic Science. Yet where is one to draw the line? Sir William Beveridge has put this difficulty very clearly in his lecture on *Economics as a Liberal Education*. "It is too wide a definition to speak of Economics as the science of the material side of human welfare. A house contributes to human welfare and should be material. If, however, one is considering the building of a house, the question whether the roof should be made of paper or of some other material is a question not of Economics but of the technique of house building".¹ Nor do we meet this difficulty by inserting the word "general" before "causes of material welfare". Economics is not the aggregate of the technologies. Nor is it an attempt to

¹ *Economica*, vol. i., p. 3. Of course the question whether the roof shall be of slate or tiles, for instance, may well depend on the relative prices of these materials and therefore have an economic aspect. Technique merely prescribes certain limits within which choice may operate. See below, p. 35.

select from each the elements common to several. Motion study, for instance, may yield generalisations applicable to more than one occupation. But motion study has nothing to do with Economics. Nor, in spite of the hopes of certain industrial psychologists, is it capable of taking its place. So long as we remain within the ambit of any definition of the subject-matter of Economics in terms of the causes of material welfare, the connection between Economics and the technical arts of production must remain hopelessly obscure.

But, from the point of view of the definition we have adopted, the connection is perfectly definite. The technical arts of production are simply to be grouped among the *given* factors influencing the relative scarcity of different economic goods.¹ The technique of cotton manufacture, as such, is no part of the subject-matter of Economics, but the existence of a given technique of various potentialities, together with the other factors influencing supply, conditions the possible response to any valuation of cotton goods, and consequently influences the adaptations which it is the business of Economics to study.

So far, matters are supremely simple. But now it is necessary to remove certain possible misunderstandings. At first sight it might appear as if the conception we are adopting ran the danger of tipping the baby out with the bath water. In regarding technique as merely data, are we not in danger of

¹ Professor Knight in a recent article ("Economic Science in Recent Discussion", *American Economic Review*, vol. xxiv., p. 225 *et seq.*) complains that I do not make clear that technique in relation to economics is simply so much *data*. I cannot help thinking that the passage above must have escaped Professor Knight's attention. I certainly agree with his views in this respect. But I do not know how to put the matter more strongly than I have done already.

excluding from the subject-matter of Economics just those matters where economic analysis is most at home? For is not production a matter of technique? And is not the theory of production one of the central preoccupations of economic analysis?

The objection sounds plausible. But, in fact, it involves a complete misapprehension—a misapprehension which it is important finally to dispel. The attitude we have adopted towards the technical arts of production does not eliminate the desirability of an economic theory of production.¹ For the influences determining the structure of production are not purely technical in nature. No doubt, technique is very important. But technique is not everything. It is one of the merits of modern analysis that it enables us to put technique in its proper place. This deserves further elucidation. It is not an exaggeration to say that, at the present day, one of the main dangers to civilisation arises from the inability of minds trained in the natural sciences to perceive the difference between the economic and the technical.

Let us consider the behaviour of an isolated man in disposing of a single scarce commodity.² Let us consider, for instance, the behaviour of a Robinson Crusoe in regard to a stock of wood of strictly limited dimensions. Robinson has not sufficient wood for all the purposes to which he could put it. For the time being the stock is irreplaceable. What are the influences which will determine the way in which he utilises it?

¹ Whether this theory is to be conceived, as it sometimes has been in the past, as concerned with aggregates of wealth is another matter which will be dealt with in the next chapter. See below, Chapter III., Section 6.

² Compare Oswald, *Vorträge über wirtschaftliche Grundbegriffe*, pp. 20-41.

Now, if the wood can only be used at one time and for one purpose, or if it is only wanted at one time and for one purpose, and if we assume that Robinson has ample time to devote to its utilisation, it is perfectly true that his economising will be dictated entirely by his knowledge of the technical arts of production concerned. If he only wants the wood to make a fire of given dimensions, then, if there is only a limited supply of wood available, his activities will be determined by his knowledge of the technique of fire-making. His activities in this respect are purely technical.

But if he wants the wood for more than one purpose—if, in addition to wanting it for a fire, he needs it for fencing the ground round the cabin and keeping the fence in good condition—then, inevitably, he is confronted by a new problem—the *problem of how much wood to use for fires and how much for fencing*. In these circumstances the techniques of fire-making and fencing are still important. But the problem is no longer a purely technical problem.¹ Or, to put the matter another way, the considerations determining his disposal of wood are no longer purely technical. Conduct is the resultant of conflicting psychological pulls acting within an environment of given material and technical possibilities. The problem of technique and the problem of economy are fundamentally different problems. To use Professor Mayer's very elegant way of putting the distinction, the problem of technique arises when there is one end and a multiplicity of means, the problem of economy when both the ends and the means are multiple.²

¹ All this can be made very clear by the use of a few Paretean curves. Given the production opportunity curves, we know the technical possibilities. But the problem is not determinate unless the consumption indifference curves are also known.

² See Hans Mayer, *op. cit.*, pp. 5 and 6.

Now, as we have seen already, it is one of the characteristics of the world as we find it that our ends are various and that most of the scarce means at our disposal are capable of alternative application. This applies not only to scarce products. It applies still more to the ultimate factors of production. The various kinds of natural resources and labour can be used for an almost infinite variety of purposes. The disposition to abstain from consumption in the present releases uses of primary factors for more than one kind of roundabout process. And, for this reason, a mere knowledge of existing technique does not enable us to determine the actual "set" of the productive apparatus. We need to know also the ultimate valuations of the producers and consumers connected with it. It is out of the interplay of the given systems of ends on the one side and the material and technical potentialities on the other, that the aspects of behaviour which the economist studies are determined. Only in a world in which all goods were free goods would technical considerations be the sole determinants of the satisfaction of given ends. But, in such a world, by definition, the economic problem would have ceased to exist.

All this sounds very abstract. But, in fact, it merely states, in terms of a degree of generality appropriate to the very fundamental questions we are examining, facts which are well known to all of us. If we ask the concrete question, why is the production of such a commodity in such and such an area what it is, and not something else, our answer is not couched in terms which, in the first instance, have a technical implication. Our answer runs in terms of prices and costs; and, as every first-year student knows, prices

and costs are the reflection of relative valuations, not of merely technical conditions. We all know of commodities which, from the technical point of view, could be produced quite easily.¹ Yet their production is not at the moment a business proposition. Why is this? Because, given the probable price, the costs involved are too great. And why are costs too great? Because the technique is not sufficiently developed? This is only true in a historical sense. But it does not answer the fundamental question why, *given the technique*, the costs are too high. And the answer to that can only be couched in economic terms. It depends essentially on the price which it is necessary to pay for the factors of production involved compared with the probable price of the product. And that may depend on a variety of considerations. In competitive conditions, it will depend on the valuations placed by consumers on the commodities which the factors are capable of producing. And if the costs are too high, that means that the factors of production can be employed elsewhere producing commodities which are valued more highly. If the supply of any factor is monopolised, then high costs may merely mean that the controllers of the monopoly are pursuing a policy which leads to some of the factors they control being temporarily unemployed. But, in any case, the process of ultimate explanation begins just where the description of the technical conditions leaves off.

But this brings us back—although with new knowledge of its implications—to the proposition from which we started. Economists are not interested in

¹ The production of motor oils from coal is a very topical case in point.

technique as such. They are interested in it solely as one of the influences determining relative scarcity. Conditions of technique "show" themselves in the productivity functions just as conditions of taste "show" themselves in the scales of relative valuations. But there the connection ceases. Economics is a study of the disposal of scarce commodities. The technical arts of production study the "intrinsic" properties of objects or human beings.

5. It follows from the argument of the preceding sections that the subject-matter of Economics is essentially a series of relationships—relationships between ends conceived as the possible objectives of conduct, on the one hand, and the technical and social environment on the other. Ends as such do not form part of this subject-matter. Nor does the technical and social environment. It is the relationships between these things and not the things in themselves which are important for the economist.

If this point of view be accepted, a far-reaching elucidation of the nature of Economic History and what is sometimes called Descriptive Economics is possible—an elucidation which renders clear the relationship between these branches of study and theoretical Economics and removes all possible grounds of conflict between them. The nature of Economic Theory is clear. It is the study of the formal implications of these relationships of ends and means on various assumptions concerning the nature of the ultimate data. The nature of Economic History should be no less evident. It is the study of the substantial instances in which these relationships show themselves through time. It is the explanation of the historical manifestations of "scarcity". Economic

Theory describes the forms, Economic History the substance.

Thus, in regard to Economic History no more than in regard to Economic Theory can we classify events into groups and say: these are the subject-matter of your branch of knowledge and these are not. The province of Economic History, equally with the province of Economic Theory, cannot be restricted to any part of the stream of events without doing violence to its inner intentions. But no more than any other kind of history does it attempt comprehensive description of this stream of events;¹ it concentrates upon the description of a certain *aspect* thereof—a changing network of economic relationships,² the effect on values in the economic sense of changes in ends and changes in the technical and social opportunities of realising them.³ If the Economic Theorist, manipulating his shadowy abacus of forms and inevitable relationships, may comfort himself with the reflection that all action may come under its categories, the Economic Historian, freed from subservience to other branches of history, may rest assured that there is no segment of the multicoloured weft of events which may not prove relevant to his investigations.

¹ On the impossibility of history of any kind without selective principle see Rickert, *Kulturwissenschaft und Naturwissenschaft*, pp. 28-60.

² Cp. Cunningham: "Economic History is not so much the study of a special class of facts as the study of all the facts from a special point of view" (*Growth of English Industry and Commerce*, vol. i., p. 8).

³ On the relation between Economic Theory and Economic History, see Heckscher, *A Plea for Theory in Economic History* (*Economic History*, vol. i., pp. 525-535); Clapham, *The Study of Economic History*, *passim*; Mises, *Soziologie und Geschichte* (*Archiv für Sozialwissenschaft und Sozialpolitik*, Bd. 61, pp. 465-512). It may be urged that the above description of the nature of Economic History presents a very idealised picture of what is to be found in the average work on Economic History. And it may be admitted that, in the past, Economic History, equally with Economic Theory,

A few illustrations should make this clear. Let us take, for example, that vast upheaval which, for the sake of compendious description, we call the Reformation. From the point of view of the historian of religion, the Reformation is significant in its influence on doctrine and ecclesiastical organisation. From the point of view of the political historian, its interest consists in the changes in political organisation, the new relations of rulers and subjects, the emergence of the national states, to which it gave rise. To the historian of culture it signifies important changes both in the form and the subject-matter of the arts, and the freeing of the spirit of modern scientific enquiry. But to the economic historian it signifies chiefly changes in the distribution of property, changes in the channels of trade, changes in the demand for fish, changes in the supply of indulgences, changes in the incidence of taxes. The economic historian is not interested in the changes of ends and the changes of means in themselves. He is interested only in so far as they affect the series of relationships between means and ends which it is his function to study.

Again, we may take a change in the technical processes of production—the invention of the steam

has not always succeeded in purging itself of adventitious elements. In particular it is clear that the influence of the German Historical School was responsible for the intrusion of all sorts of sociological and ethical elements which cannot, by the widest extension of the meaning of words, be described as *Economic History*. It is true too that there has been considerable confusion between Economic History and the economic interpretation of other aspects of history—in the sense of the word “economic” suggested above—and between Economic History and the “Economic Interpretation” of History in the sense of the Materialist Interpretation of History (see below, Section 6). But I venture to suggest the main stream of Economic History from Fleetwood and Adam Smith down to Professor Clapham bears the interpretation put on it here more consistently than any other.

engine or the discovery of rail transport. Events of this sort, equally with changes in ends, have an almost inexhaustible variety of aspects. They are significant for the history of technique, for the history of manners, for the history of the arts, and so on *ad infinitum*. But, for the economic historian, all these aspects are irrelevant save in so far as they involve action and reaction in his sphere of interest. The precise shape of the early steam engine and the physical principles upon which it rested are no concern of the economic historian as economic historian—although economic historians in the past have sometimes displayed a quite inordinate interest in such matters. For him it is significant because it affected the supply of and the demand for certain products and certain factors of production, because it affected the price and income structures of the communities where it was adopted.

So, too, in the field of “Descriptive Economics”—the Economic History of the present day—the main object is always the elucidation of particular “scarcity relationships”—although the attainment of this object often necessarily involves very specialised investigations. In the study of monetary phenomena, for instance, we are often compelled to embark upon enquiries of a highly technical or legal character—the mode of granting overdrafts, the law relating to the issue of paper money. For the banker or the lawyer these things are the focus of attention. But for the economist, although an exact knowledge of them may be essential to his purpose, the acquisition of this knowledge is essentially subservient to his main purpose of explaining the potentialities, in particular situations, of changes in the supply of circulating

media. The technical and the legal are of interest solely in so far as they have this aspect.¹

6. Finally, we may notice the bearing of all this on the celebrated Materialist or "Economic" Interpretation of History. For, from the point of view we have adopted, certain distinctions, not always clearly recognised, are discernible.

We have seen already that, although in the past Economics has been given what may be described as a "materialist" definition, yet its content is not at all materialistic. The change of definition which we have suggested, so far from necessitating a change of content, serves only to make the present content more

¹ Considerations of this sort suggest the very real dangers of overmuch sectionalism in economic studies. In recent years there has been an immense extension of sectional studies in the economic field. We have institutes of Agricultural Economics, Transport Economics, Mining Economics, and so on. And, no doubt, up to a point this is all to the good. In the realm of Applied Economics, some division of labour is essential, and, as we shall see later, theory cannot be fruitfully applied to the interpretation of concrete situations unless it is informed continually of the changing background of the facts of particular industries. But, as experience shows, sectional investigations conducted in isolation are exposed to very grave dangers. If continual vigilance is not exercised they tend to the gradual replacement of economic by technological interests. The focus of attention becomes shifted, and a body of generalisations which have only technical significance comes to masquerade as Economics. And this is fatal. For, since the scarcity of means is relative to *all* ends, it follows that an adequate view of the influences governing social relationships in their economic aspects can only be obtained by viewing the economic system as a whole. In the economic system, "industries" do not live to themselves. Their *raison d'être*, indeed, is the existence of other industries, and their fortunes can only be understood in relation to the whole network of economic relationships. It follows, therefore, that studies which are exclusively devoted to one industry or occupation are continually exposed to the danger of losing touch with the essentials. Their attention may be supposed to be directed to the study of prices and costs, but they tend continually to degenerate either into mere accountancy or into amateur technology. The existence of this danger is no ground for dispensing with this kind of investigation. But it is fundamental that its existence should be clearly recognised. Here, as elsewhere, it is the preservation of a proper balance which is important. Our knowledge would be very much poorer if it were not for the existence of many of the various specialised research institutes. But many serious misunderstandings would be avoided if the workers engaged therein would keep more clearly in mind a conception of what is economically relevant.

comprehensible. The "materialism" of Economics was a pseudo-materialism. In fact, it was not materialistic at all.

It might be thought that a similar state of affairs prevailed in regard to the "Economic" or Materialist Interpretation of History—that a mere change of label would suffice to make this doctrine consistent with the modern conception of economic analysis. But this is not so. For the so-called "Economic" Interpretation of History is not only *labelled* "Materialist", it is *in substance* through and through materialistic. It holds that all the events of history, or at any rate all the major events in history, are attributable to "material" changes, not in the philosophical sense that these events are part of the material world, nor in the psychological sense that psychic dispositions are the mere epiphenomena of physiological changes—though, of course, Marx would have accepted these positions—but in the sense that the material technique of production conditions the form of all social institutions, and *all* changes in social institutions are the result of changes in the technique of production. History is the epiphenomenon of technical change. The history of tools is the history of mankind.¹

Now, whether this doctrine is right or wrong, it is certainly materialistic, and it is certainly not deriva-

¹ In what follows, the distinctions I employ are very similar to those used by Dr. Strigl (*op. cit.*, pp. 158-161). The differences in our emphasis may be attributed to a difference of expository purpose. Dr. Strigl is trying to exhibit the Materialist Interpretation as a primitive theory of what he calls *Datenänderung*. He, therefore, tends to slur its deficiency in refusing to take account of changes in ultimate valuations save as derivative from changes on the supply side. I am anxious to show the fundamental distinction between any explanation of history springing from economic analysis as we know it and the explanation attempted by the Materialist Interpretation. I therefore drag this particular point into the light. I do not think that Dr. Strigl would question the logic of my distinctions any more than I would question the interest of his analogy.

tive from Economic Science as we know it. It asserts quite definitely, not only that technical changes cause changes in scarcity relationships and social institutions generally—which would be a proposition in harmony with modern economic analysis—but also that all changes in social relations are due to technical changes—which is a sociological proposition quite outside the limited range of economic generalisation. It definitely implies that all changes in ends, in relative valuations, are conditioned by changes in the technical potentialities of production. It implies, that is to say, that ultimate valuations are merely the by-product of technical conditions. If technical conditions alter, tastes, etc., alter. If they remain unchanged, then tastes, etc., are unaltered. There are no *autonomous* changes on the demand side. What changes occur are, in the end, attributable to changes in the technical machinery of supply. There is no independent “psychological” (or, for that matter, “physiological”) side to scarcity. No matter what their fundamental make-up, be it inherited or acquired, men in similar technical environments will develop similar habits and institutions. This may be right or wrong, pseudo-Hegelian twaddle or profound insight into things which at the moment are certainly not susceptible of scientific analysis, but it is not to be deduced from any laws of theoretical Economics. It is a general statement about the causation of human motive which, from the point of view of Economic Science, is completely gratuitous. The label “Materialist” fits the doctrine. The label “Economic” is misplaced. Economics may well provide an important instrument for the elucidation of history. But there is nothing in economic analysis which entitles us to assert that

all history is to be explained in "economic" terms, if "economic" is to be used as equivalent to the technically material. The Materialist Interpretation of History has come to be called the Economic Interpretation of History, because it was thought that the subject-matter of Economics was "the causes of material welfare". Once it is realised that this is not the case, the Materialist Interpretation must stand or fall by itself. Economic Science lends no support to its doctrines. Nor does it assume at any point the connections it asserts. From the point of view of Economic Science, changes in relative valuations are data.¹

¹ It might be argued, indeed, that a thorough understanding of economic analysis was conducive to presumptions against the Materialist Interpretation. Once it is realised how changes in technique do *directly* influence amounts demanded, it is extraordinarily difficult to bring oneself to postulate any *necessary* connection between technical changes and autonomous changes on the demand side. Such an attitude of scepticism towards the Marxian theory does not imply denial of metaphysical materialism—though equally it does not imply its acceptance—it implies merely a refusal to believe that the causes influencing taste and so on are technical in nature. The most intransigent behaviourist need find nothing to quarrel with in the belief that technical materialism in this sense is a very misleading half truth.

CHAPTER III

THE RELATIVITY OF ECONOMIC "QUANTITIES"

1. THAT aspect of behaviour which is the subject-matter of Economics is, as we have seen, conditioned by the scarcity of *given* means for the attainment of *given* ends. It is clear, therefore, that the quality of scarcity in goods is not an "absolute" quality. Scarcity does not mean mere infrequency of occurrence. It means limitation in relation to demand. Good eggs are scarce because, having regard to the demand for them, there are not enough to go round. But bad eggs, of which, let us hope, there are far fewer in existence, are not scarce at all in our sense. They are redundant. This conception of scarcity has implications both for theory and for practice which it is the object of this chapter to elucidate.

2. It follows from what has just been said that the conception of an economic good is necessarily purely formal.¹ There is no quality in things taken out of their relation to men which can make them economic goods. There is no quality in services taken

¹ Of course, the conceptions of any pure science are *necessarily* purely formal. If we were attempting to describe Economics by inference from general methodological principles, instead of describing it as it appears from a consideration of what is essential in its subject-matter, this would be a guiding consideration. But it is interesting to observe how, starting from the inspection of an apparatus which actually exists for solving concrete problems, we eventually arrive, by the necessities of accurate description, at conceptions which are in full conformity with the expectations of pure methodology.

out of relation to the end served which makes them economic. Whether a particular thing or a particular service is an economic good depends entirely on its relation to valuations.

Thus wealth¹ is not wealth because of its substantial qualities. It is wealth because it is scarce. We cannot define wealth in physical terms as we can define food in terms of vitamin content or calorific value. It is an essentially relative concept. For the community of ascetics discussed in the last chapter there may be so many goods of certain kinds in relation to the demand for them that they are free goods—not wealth at all in the strict sense. In similar circumstances, the community of sybarites might be "poor". That is to say, for them, the self-same goods might be economic goods.

So, too, when we think of productive power in the economic sense, we do not mean something absolute—something capable of physical computation. We mean power to satisfy given demands. If the given demands change, then productive power in this sense changes also.

A very vivid example of what this means is to be found in Mr. Winston Churchill's account of the situation confronting the Ministry of Munitions at 11 a.m. on November 11th, 1918—the moment of the signing of the Armistice. After years of effort, the nation had acquired a machine for turning out the

¹ The term wealth is used here as equivalent to a flow of economic goods. But I think it is clear that there are profound disadvantages in using it in this sense. It would be very paradoxical to have to maintain that, if "economic" goods by reason of multiplication became "free" goods, wealth would diminish. Yet that might be urged to the implication of this usage. Hence, in any rigid delimitation of Economics, the term wealth should be avoided. It is used here simply in elucidation of the implications for everyday discussion of the somewhat remote propositions of the preceding paragraph.

materials of war in unprecedented quantities. Enormous programmes of production were in every stage of completion. Suddenly the whole position is changed. The "demand" collapses. The needs of war are at an end. What was to be done? Mr. Churchill relates how, in the interests of a smooth change-over, instructions were issued that material more than 60 per cent. advanced was to be finished. "Thus for many weeks after the war was over we continued to disgorge upon the gaping world masses of artillery and military materials of every kind."¹ "It was waste", he adds, "but perhaps it was a prudent waste." Whether this last contention is correct or not is irrelevant to the point under discussion. What is relevant is that what at 10.55 a.m. that morning was wealth and productive power, at 11.5 had become "not-wealth," an embarrassment, a source of social waste. The substance had not changed. The guns were the same. The potentialities of the machines were the same. From the point of view of the technician, everything was exactly the same. But from the point of view of the economist, everything was different. Guns, explosives, lathes, retorts, all had suffered a sea change. The ends had changed. The scarcity of means was different.²

¹ *The World Crisis*, vol. v., pp. 33-35.

² It is, perhaps, worth while observing how our practice here differs from the practice which would seem to follow from Professor Cannan's procedure. Having defined wealth as material welfare, Professor Cannan would be logically compelled to argue that we were not producing during the War. In fact, he gets out of the difficulty by arguing that we may say that we were producing produce but not material welfare (*Review of Economic Theory*, p. 51). From the point of view of the definitions here adopted, it follows, not that we were not producing, but simply that we were not producing for the same demands as during peace time. From either point of view, the *non-comparability* of material statistics of war and peace follows clearly. But from our point of view the *persistence* of formal economic laws is much more clearly emphasised.

3. The proposition which we have just been discussing, concerning what may be described as the relativity of "economic quantities", has an important bearing on many problems of Applied Economics—so important, indeed, that it is worth while, here and now, interrupting the course of our main argument in order to examine them rather more fully. There can be no better illustration of the way in which the propositions of pure theory facilitate comprehension of the meaning of concrete issues.

A conspicuous instance of a type of problem which can only be satisfactorily solved with the aid of the distinctions we have been developing, is to be found in contemporary discussions of the alleged economies of mass production. At the present day the lay mind is dominated by the spectacular achievements of mass production. Mass production has become a sort of cure-all, an open sesame. The goggled eyes of the world turn westward to Ford the deliverer. He who has gaped longest at the conveyors at Detroit is hailed as the most competent economist.

Now, naturally, no economist in his senses would wish to deny the importance for modern civilisation of the potentialities of modern manufacturing technique. The technical changes which bring to the door, even of the comparatively poor man, the motor-car, the gramophone, the wireless apparatus, are truly momentous changes. But, in judging their significance in regard to a given set of ends, it is very important to bear in mind this distinction between the mere multiplication of material objects and the satisfaction of demand, which the definitions of this chapter elucidate. To use a convenient jargon, it is important to bear in mind the distinction between technical and

value productivity. The mass production of particular things irrespective of demand for them, however technically efficient, is not necessarily "economical". As we have seen already, there is a fundamental difference between technical and economic problems.¹ We may take it as obvious that, within certain limits (which, of course, change with changing conditions of technique), specialisation of men and machinery is conducive to technical efficiency. But the extent to which such specialisation is "economical" depends essentially upon the extent of the market—that is to say, upon demand.² For a blacksmith producing for a small and isolated community to specialise solely on the production of a certain type of horse-shoe, in order to secure the economies of mass production, would be folly. After he has made a limited number of shoes of one size, it is clearly better for him to turn his attention to producing shoes of other sizes, additional units of which will be more urgently demanded than additional units of the size of which he has already manufactured a large quantity.

So, too, in the world at large at any particular moment, there are definite limits to the extent to which the mass production of any one type of commodity to the exclusion of other types is in conformity with the demands of consumers. If it is carried beyond these limits, not only is there waste, in the sense that productive power is used to produce goods of less value than could be produced otherwise, but there is also definite financial loss for the productive enterprise concerned. It is one of the paradoxes of the history of

¹ See above, pp. 32-38.

² See Allyn Young, *Increasing Returns and Economic Progress* (*Economic Journal*, vol. xxxviii., pp. 528-542). On the sense in which it is legitimate to use the term "economical" in this connection, see Chapter VI. below.

modern thought that, at a time when the disproportionate development of particular lines of production has wrought more chaos in the economic system than at any earlier period in history, there should arise the naïve belief that a general resort to mass production, whenever and wherever it is technically possible, regardless of the conditions of demand, will see us out of our difficulties. It is the nemesis of the worship of the machine, the paralysis of the intellect of a world of technicians.

This confusion between technical potentiality and economic value, which, borrowing a phrase of Professor Whitehead's, we may call the "fallacy of misplaced concreteness",¹ also underlies certain notions at present unduly prevalent with regard to the value of fixed capital. It is sometimes thought that the fact that large sums of money have been sunk in certain forms of fixed capital renders it undesirable, if consumer's demand changes, or if technical invention renders it possible to satisfy a given consumer's demand in other more profitable ways, that the capital should fall into disuse. If the satisfaction of demand is assumed as the criterion of economic organisation, this belief is completely fallacious. If I purchase a railway ticket from London to Glasgow, and half-way on my journey I receive a telegram informing me that my appointment must take place in Manchester, it is not rational conduct for me to continue my journey northwards, just because I have "sunk capital" in the ticket which I am unable to recover. It is true that the ticket is still as "technically efficient" in procuring me the right to go to Glasgow. But my objective has now changed. The power to continue my journey

¹ *Science and the Modern World*, p. 64.

northward is no longer valuable to me. To continue nevertheless would be irrational. In Economics, as Jevons remarked, bygones are forever bygones.

Exactly similar considerations apply when we are considering the present status of machinery for whose products demand has ceased, or which has ceased to be as profitable, taking everything into account, as other kinds of machinery. Although the machinery may be technically as efficient as it was before these changes, yet its economic status is different.¹ No doubt, *if* the change in demand or in cost conditions which led to its supersession had been foreseen, the disposition of resources would have been different. In that sense it is not meaningless to speak of a waste due to ignorance—although there are difficulties here. But once the change has taken place, what has happened before is totally irrelevant—it is waste to take it into further consideration. The problem is one of adjustment to the situation that is given. When every legitimate criticism of the subjective theory of value has been taken into account, it still remains the unshakable achievement of this theory that it focuses attention on this fact, as important in applied Economics as in the purest of pure theory.

As a last example of the importance for applied Economics of the propositions we have been considering, we may examine certain misconceptions

¹ Compare Pigou, *Economics of Welfare*, 3rd edition, pp. 190-192. It is, perhaps, worth noting that most contemporary discussion of the so-called Transport Problem completely ignores these elementary considerations. If there is a concealed subsidy to motor transport through public expenditure on roads, this is a matter for the Chancellor of the Exchequer. It is no argument for attempting to make people go by train who prefer to travel by road. If we want to preserve railways which are unprofitable in the present conditions of demand, we should subsidise them as ancient monuments.

with regard to the economic effects of inflation. It is a well-known fact that during periods of inflation there is often for a time extreme activity in the constructional industries. Under the stimulus of the artificially low interest rates, overhauling of capital equipment on the most extensive scale is often undertaken. New factories are built. Old factories are re-equipped. To the lay mind, there is something extraordinarily fascinating about this spectacular activity; and when the effects of inflation are being discussed, it is not infrequently regarded as a virtue that it should be instrumental in bringing this about. How often does one hear it said of the German inflation that, while it was painful enough while it lasted, it did at least provide German industry with a new capital equipment. Indeed, no less an authority than Professor F. B. Graham has given the weight of his authority to this view.¹

But, plausible as all this may seem, it is founded on the same crude materialist conception as the other fallacies we have been discussing. For the efficiency of any industrial system does not consist in the presence of large quantities of up-to-date capital equipment, irrespective of the demand for its products or the price of the factors of production which are needed for the profitable exploitation of such equipment. It consists in the degree of adaptation to meet demand of the organisation of *all* resources. Now it

¹ *Exchange, Prices and Production in Hyperinflation: Germany, 1920-1923*, p. 320. "So far as output is concerned, there is little support in actual statistics for the contention that the evils of inflation were other than evils of distribution." In his conclusion, Professor Graham does indeed make the grudging admission that "in the later stages of inflation, investment in durable goods took on a bizarre aspect". But he seems to believe that the "quality" of capital equipment may deteriorate without any detriment to its "quantity".

can be shown¹ that, during times of inflation, the artificially low rates of interest tend to encourage expansion of certain kinds of capitalistic production in such measure that, when the stimulus is exhausted, it is no longer possible to work them as profitable undertakings. At the same time, liquid resources are dissipated and exhausted. When the slump comes, the system is left high and dry with an incubus of fixed capital too costly to be worked at a profit, and a relative shortage of "liquid capital" which causes interest rates to be stringent and oppressive. The beautiful machinery which so impressed the newspaper correspondents is still there, but the wheels are empty of profit. The material is there. But it has lost its economic significance. Considerations of this sort might have been thought to be very remote from reality at the time of the German inflation or at the time of stabilisation. After years of chronic "capital shortage" in that unhappy country, they begin to appear less paradoxical.²

4. It is time to return to more abstract considerations. We have next to consider the bearing of our definitions upon the meaning of Economic Statistics.

Economic Statistics employ two kinds of units of reckoning—physical units and value units. Reckoning is by "weight and tale" or by valuation—so many tons of coal, so many pounds sterling worth of coal. From the point of view of economic analysis, what meaning is to be attached to these computations?

¹ See Mises, *The Theory of Money and Credit*, pp. 339-366; Hayek, *Monetary Theory and the Trade Cycle*, and *Prices and Production*; Strigl, *Die Produktion unter dem Einflusse einer Kreditexpansion* (*Schriften des Vereins für Sozialpolitik*, Bd. 173, pp. 187-211).

² See Bonn, *Das Schicksal des deutschen Kapitalismus*, pp. 14-31. Bresciani-Turroni, *Il Vicendi del Marco Tedesco*.

So far as physical reckonings are concerned, what has been said already is sufficient. There is no need further to labour the proposition that, although, as records of fact, physical computations may be unimpeachable and, in certain connections, useful, yet from the point of view of the economist they have no significance apart from relative valuations. No doubt, assuming a certain empirical permanence of relative valuations, many physical series have direct significance for applied Economics. But from the logical point of view this is an accident. The significance of the series always depends upon the background of relative valuation.

So far as reckonings in terms of value are concerned, there are other subtler difficulties which we must now proceed to unravel.

According to modern price theory, the prices of different commodities and factors of production are expressions of relative scarcity, or, in other words, marginal valuations.¹ Given an initial distribution of resources, each individual entering the market may be conceived to have a scale of relative valuations; and the interplay of the market serves to bring these individual scales and the market scale as expressed in relative prices into harmony with one another.² Prices, therefore, express in money a grading of the various goods and services coming on the market. Any given price, therefore, has significance only in relation to the other prices prevailing at that time. Taken by itself it means nothing. It is only as the expression in money terms of a certain order of preference that it means anything at all. As Samuel

¹ See below, Chapter IV., Section 2.

² For an exhaustive description of the process, see especially Wicksteed, *Commonsense of Political Economy*, pp. 212-400.